

Mechanical Handling Data Sheet

Top Running, Double Girder

 CM

Data Sheet No.

24590-HLW-M0D-HEH-00025

Plant Item No.

24590-HLW-MJ-HEH-CRN-00003

Project		RPP-WTP		Descriptio	n		Canister Sta	rage Crana	
Project No.		24590		Supporting Calculation No.		Canister Storage Crane			
Planning Area		1.000		Associated Drawing No.		N/A 4 I		R10704040	
System No.		HEH			d Specifica			P-3PS-MJKG-T0003	
Building No.		30	······································		d MR No.			RA-MJKG-00002	
Quality Level		► CM 4		, reconstant	a mire ito.		24330-QL-IVI	· · · · · · · · · · · · · · · · · · ·	
Seismic Criteria	a	SC-II	· · · · · · · · · · · · · · · · · · ·					ISSUI	
Function		 	ndling, Storage, and N	Maintenance	Activities		\\\\	RPP-W	TP PDC
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DESIGN CRITE	ERIA			····					
Design Life		40 years		Safety Cla	ssification	1	► APC /4	\	
						- L			
OPERATING E	NVIRONME	NT		In-Cave	Rm # H-0	132	Out-Cave	Rm # H-313B	List All Special
				Min	Max		Min	Max	Conditions
Temperature			deg F	59	113		59	113	
Relative Humidi	lity		%	0	70		0	70	
Radiological Equ	quip. Dose	gamma	mrad/hr	▶4.0*E+4	4		▶ 100 👍	7	
		neutron mrad/hr		Negligible			Negligible		
Radiological Cla			· · · · · · · · · · · · · · · · · · ·	R5			►R3/R5 👍		
Contamination (Classification	1		C3			►C3 <u>4</u>	7	
ODANE TEST	in branching	***					-14.		
CRANE REQUI	IREMENTS		<u></u>					·	
Type of Crane	ntion		Top Running Double		tric Overh		Crane	Tons	
Service Informat			CMAA 70-2000, Cla	ss E		Capacity		6 Ton	
Crane Operation			Yes, In-Cave			Main Hoist		6 Ton	
Class Informatio	laterial Handled Canisters		Class E			Auxiliary Hois	***		
			1			Trolley		6 Ton	
ASCE Rail Type			lo. of Cranes Required 1			Bridge		6 Ton	
loist- Range of	HARACTER Lift		► 104 lb/yd Crane F FREQUENCY OF MC (F) - (G) 1/2 Runway Length			No. lifts/day		6	
Hoist- Range of Average Moves Average Moves	HARACTER Lift - Bridge - Trolley	ISTICS AND F	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day			
Hoist- Range of Average Moves Average Moves CRANE DIMENS	HARACTER Lift - Bridge - Trolley SIONS AND	ISTICS AND F	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6	ft - in.
Hoist- Range of Average Moves Average Moves CRANE DIMENS Lowest Obstruct	HARACTER Lift - Bridge - Trolley SIONS AND	ELEVATIONS	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6	ft - in. 45'-0"
Hoist- Range of Average Moves Average Moves CRANE DIMENS Lowest Obstructi Shield Door Corr	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation	ELEVATIONS	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol	
Hoist- Range of Average Moves Average Moves CRANE DIMENS Lowest Obstruction Shield Door Corrolley Rail Eleva	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation rner Obstruct	ELEVATIONS	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C)	45'-0"
Hoist- Range of Average Moves Average Moves CRANE DIMENS Lowest Obstruct Shield Door Corrolley Rail Eleva Bridge Rail Eleva	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation mer Obstruct vation	ELEVATIONS n ion Elevation	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2"
Hoist- Range of Average Moves Average Moves Average Moves CRANE DIMENS Lowest Obstruct Shield Door Corr Frolley Rail Eleva Bridge Rail Eleva Lowest Point of C	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation ration Crane Elevation	ELEVATIONS n ion Elevation	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9"
Hoist- Range of Average Moves Average Moves CRANE DIMENS Lowest Obstruction Shield Door Corr Frolley Rail Eleva Bridge Rail Eleva Lowest Point of Chigh Hook Eleva	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation ruer Obstruct ration Crane Elevat ation	ELEVATIONS n ion Elevation	FREQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D) (E)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5"
Hoist- Range of Average Moves Average Moves Average Moves CRANE DIMENS Lowest Obstruct Shield Door Corr Frolley Rail Eleva Bridge Rail Eleva Lowest Point of Cligh Hook Eleva Low Hook Elevat	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation ruer Obstruct ration Crane Eleva ation	ELEVATIONS n ion Elevation	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D) (E) (F)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0"
Hoist- Range of Average Moves Average Moves Average Moves CRANE DIMENS Lowest Obstructi Shield Door Corr Frolley Rail Eleva Bridge Rail Eleva Lowest Point of Chigh Hook Eleva Low Hook Elevat Side Approach	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation ruer Obstruct ration Crane Elevat ation - hoist center	ELEVATIONS n ion Elevation tion	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D) (E) (F) (G) (H)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0" 3'-4" MAXIMUM
Hoist- Range of Average Moves Average Moves Average Moves CRANE DIMENS Lowest Obstructi Shield Door Corr Frolley Rail Eleva Bridge Rail Eleva Lowest Point of Chigh Hook Elevat Side Approach	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation ruer Obstruct ration Crane Eleva ation - hoist center - hoist center	ELEVATIONS n tion Elevation tion line to West R line to East R	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length S			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D) (E) (F) (G) (H)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0" 3'-4" MAXIMUM 3'-4" MAXIMUM
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Hoist- Range of Average Moves Average Moves Average Moves Average Moves Average Moves CRANE DIMENS Cowest Obstructi Shield Door Corr Trolley Rail Eleva Bridge Rail Eleva Cowest Point of O High Hook Eleva Cow Hook Eleva Cow Hook Eleva Cow Hook Eleva Coistance from Gr Distance from ho Distance from Gr Otal distance be Lange of Lift Lunway Rails Sp	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation rer Obstruct ration Crane Eleva ation ation - hoist center - hoist center lin oist center lin	ELEVATIONS n tion Elevation tion line to West R line to East R to Inside face of the to end-truck the to In-Cave S the to CMA Norr to inside face of the wall faces of	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length S Rails alls of West Wall South bumper North bumper South Wall th Wall of South Wall			No. lifts/day Moves/day		6 6 6 Symbol (A) (B) (C) (D) (E) (F) (G) (H) (J) (K) (L) (M) (N) (O) (P) (R)	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0" 3'-4" MAXIMUM 3'-6" ♠ 5'-3 1/2" ♠ 7'-2" 0'-0" 91'-9" 44'-7.5"
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Hoist-Range of Average Moves Average Moves Average Moves CRANE DIMENS Owest Obstruct Shield Door Corn Trolley Rail Eleva Owest Point of Chigh Hook Eleva Obstance from ho Distance from ho Distance from ho Distance from Gr Total distance be Range of Lift Runway Rails Sp Shield Door Corn	HARACTER Lift - Bridge - Trolley SIONS AND tion Elevation rer Obstruct ration ation - hoist center - hoist center lin oist c	ELEVATIONS n ion Elevation tion line to West R line to East R to Inside face of the to end-truck the to In-Cave S the to CMA Norro o inside face of a wall faces of on See note 14 See note 13 See note 12	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length Rails ails of West Wall South bumper North bumper South Wall th Wall CMA and Cave	N J Darwen A. Whitford David Horto	n	No. lifts/day Moves/day Moves/day Moves/day A. Whitford L. Harrison Paul Carter	Cod	6 6 6 Symbol (A) (B) (C) (D) (E) (F) (G) (H) (J) (K) (L) (M) (N) (O) (P) (R) (S) (T) P. Snider SEN G. Marr Joni Weamer	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0" 3'-4" MAXIMUM 3'-6" △ ► 5'-3 1/2" △ ► 7'-2" 0'-0" 91'-9" 44'-7.5" 20'-8" 0'-6" D. Wilsey Dave Wilsey
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Hoist-Range of Average Moves Average Moves Average Moves Average Moves Average Moves CRANE DIMENS Lowest Obstruct Shield Door Corn Trolley Rail Eleva Lowest Point of Chigh Hook Eleva Low	HARACTER Lift Bridge Trolley SIONS AND Ition Elevation Trolley Crane Elevation Attion Attion Crane Elevation Attion Attion Crane Elevation Attion Crane Elevation Attion Attion Crane Elevation Attion Attion Crane Elevation Attion At	ELEVATIONS n ion Elevation tion line to West R line to East R to Inside face of the to end-truck the to In-Cave S the to CMA Norro o inside face of a wall faces of on See note 14 See note 13 See note 12	REQUENCY OF MC (F) - (G) 1/2 Runway Length 3/4 Bridge Length 5 Rails alls of West Wall Couth bumper North bumper South Wall CMA and Cave	N J Darwen A. Whitford David Horto	n n	No. lifts/day Moves/day Moves/day Moves/day A. Whitford L. Harrison Paul Carter	Cod	6 6 6 Symbol (A) (B) (C) (D) (E) (F) (G) (H) (J) (K) (L) (M) (N) (O) (P) (R) (S) (T) P. Snider SEN G. Marr Joni Weamer	45'-0" 44'-6" 39'-11" NOMINAL 38'-3 1/2" 37'-9" 35'-7.5" -9'-0" 3'-4" MAXIMUM 3'-6" △ ► 5'-3 1/2" △ ► 7'-2" 0'-0" 91'-9" 44'-7.5" 20'-8" 0'-6" D. Wilsey Dave Wilsey



Mechanical Handling Data Sheet

Top Running, Double Girder

Data Sheet No.

24590-HLW-M0D-HEH-00025

Plant Item No.

24590-HLW-MJ-HEH-CRN-00003

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DRIVE TYPE SPEED AND HORSEPOWER

Drives	Drive Type	Speed	Horsepower		Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	12 HP	Nominal Speed (ft/m):	5	25
Recovery Hoist Drive Type	Single Speed	Single Speed	7 HP	Nominal Speed (ft/m):	5	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	Nominal Speed (ft/m):	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	Nominal Speed (ft/m):	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	Nominal Speed (ft/m):	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	Nominal Speed (ft/m):	5	
Powered Hook	DC Motor	Fixed	0.05 HP	Nominal Speed (rpm):	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Manual
Location of Control	Dedicated Crane Control Room/ Window Station/ Crane Maintenance Area
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

INDIA INE CONCENIENTO		
Item	Volts / Phase / Hertz	
Motor	480 VAC / 3 Phase / 60 HZ	The state of the s
Special Wiring Conditions	National Electric Code	V

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling	
Modularization	Heaviest Modular item except bridge beams / end trucks / must be < 5 tons.	
Retrieval	Crane must be retrievable / Hoist must be retrievable	
Decontamination	Crane and hoist needs to be decontaminable and minimize cracks and crevices that can trap debris	

ADDITIONAL REQUIREMENTS (NOTES):

- 1. Motors and electrical cabinets etc. to be sealed to withstand occasional washdown during decontamination.
- 2. Four bridge mounted and two trolley mounted cameras capable of pan, zoom, iris and tilt and one hook deployed camera including lighting, pan, tilt, zoom and iris to view cave floors. The Buyer supplies the cameras, Seller provides mounts.
- 3. All cranes shall be designed to allow operator positioning to within +/- 3/8"
- 4. Four crane mounted lights as well as light supplied by cameras.
- Must be able to hold and control suspended payload without mechanical braking for sustained periods.
- Must not drop load during any single random or common mode electrical failure.
- 7. Must be recoverable by remote means after any specified single random or common mode failure by use of redundant drives in conjunction with cable reel where necessary.
- 8. Power supply is required at hook for crane held tools.
- Motor horsepower estimated for plant electrical load sizing. Seller to provide.
- 10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order QL-POA-MJKG-00002.
- ► 11. Revision 1 changes: Changed additional requirements, drives, and description

 12. Revision 2 changes: Changed low hook height and range of lift
- ► 13. Revision 3 changes: Changed rad levels, drive types and editorial changes.
- ▶ 14. Revision 3 changes: Safety Classification changed to APC; Quality Level changed to CM; Calc ref deleted; Dimension K & M ammended to include bumper extensions that allow bumpers to engage on cave wall, IAW 24590-HLW-ACA-M-05-00031

Doc Number 24590-HLW-M0D-HEH-00025 REV 4 Page 2 of



Mechanical Handling Data Sheet

Top Running, Double Girder

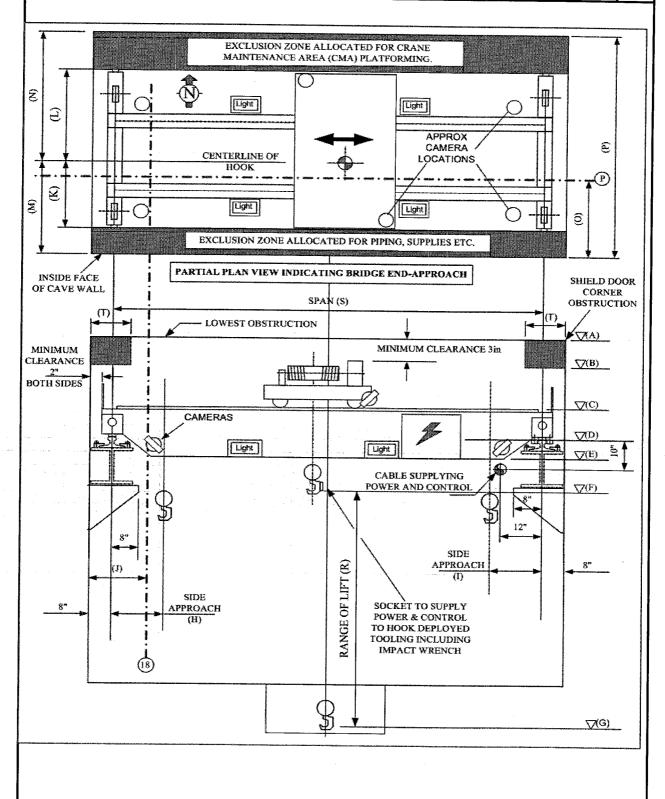
Data Sheet No.

24590-HLW-M0D-HEH-00025

Plant Item No.

24590-HLW-MJ-HEH-CRN-00003

Rev.



4

3